WHAT IS CLAIMED IS:

1. A method for performing a measurement in a network comprising:

creating an Internet Protocol Measurement Protocol (IPMP) packet by a measurement host;

including in the IPMP packet instructions for a recipient of the IPMP packet, said instructions including an start recording instruction to a recipient indicating a predetermined number of hops that are required before a recipient should begin adding additional information when forwarding the IPMP packet;

encapsulating the IPMP packet in an Internet Protocol (IP) datagram and a predetermined link layer protocol; and

sending the IPMP packet into the network from the measurement host.

2. The method according to claim 1, further comprising including an instruction in said instructions indicating to a recipient to insert a time stamp if the predetermined number of hops has occurred.

3. The method according to claim 1, further comprising including an instruction in said instructions indicating to a recipient to insert a path record if the predetermined number of hops has occurred.

4. The method according to claim 1, wherein said recipient of the IPMP packet decrements a value of the predetermined number of hops before forwarding the IPMP packet.

5. A method for performing a measurement in a network comprising:

creating an Internet Protocol Measurement Protocol (IPMP) packet by a measurement host;

including in the IPMP packet in a predetermined field a start time to live value and a time to live value;

encapsulating the IPMP packet in an Internet Protocol (IP) datagram and a predetermined link layer protocol; and

sending the IPMP packet into the network from the measurement host.

6. The method according to claim 5, further comprising:

decrementing the start time to live value before forwarding the IPMP packet by each recipient; and

decrementing the time to live value when the start time to live value equals the time to live value.

7. The method according to claim 6, further comprising initiating one or more predetermined actions at one or more subsequent recipients of the IPMP packet when the start time to live value equals the time to live value.

8. The method according to claim 7, wherein the one or more predetermined actions include inserting a path record.

9. The method according to claim 7, wherein the one or more predetermined actions include inserting a time stamp.

10. The method according to claim 7, wherein the one or more predetermined actions include inserting information requested in the IPMP packet instructions.

11. An apparatus for performing a measurement in a network comprising:

a processor disposed in a measurement host;

a memory coupled to the processor to store computer readable instructions causing the processor to:

create an Internet Protocol Measurement Protocol (IPMP) packet;

include in the IPMP packet instructions for a recipient of the IPMP packet, said instructions including an start recording instruction to a recipient indicating a predetermined number of hops that are required before a recipient should begin adding additional information when forwarding the IPMP packet;

encapsulate the IPMP packet in an Internet Protocol (IP) datagram and a predetermined link layer protocol; and

send the IPMP packet into the network.

12. The apparatus according to claim 11, wherein the processor includes an instruction in said instructions indicating to a recipient to insert a time stamp if the predetermined number of hops has occurred.

13. The apparatus according to claim 11, wherein the processor includes an instruction in said instructions indicating to a recipient to insert a path record if the predetermined number of hops has occurred.

14. The apparatus according to claim 11, further comprising a recipient processor disposed in a recipient device that receives said IPMP packet, wherein said recipient processor decrements a value of the predetermined number of hops before forwarding the IPMP packet.

15. An apparatus for performing a measurement in a network comprising:

a processor disposed in a measurement host;

a memory coupled to the processor to store computer readable instructions causing the processor to:

create an Internet Protocol Measurement Protocol (IPMP) packet;

include in the IPMP packet in a predetermined field a start time to live value and a time to live value;

encapsulate the IPMP packet in an Internet Protocol (IP) datagram and a predetermined link layer protocol; and

send the IPMP packet into the network.

16. The apparatus according to claim 15, further comprising a recipient processor disposed in a recipient device, said recipient processor:

decrementing the start time to live value before forwarding the IPMP packet; and

decrementing the time to live value when the start time to live value equals the time to live value.

17. The apparatus according to claim 16, further comprising a recipient processor disposed in each recipient device to initiate one or more predetermined actions at one or more subsequent recipients of the IPMP packet when the start time to live value equals the time to live value.

18. The apparatus according to claim 17, wherein the one or more predetermined actions include inserting a path record.

19. The apparatus according to claim 17, wherein the one or more predetermined actions include inserting a time stamp.

20. The apparatus according to claim 7, wherein the one or more predetermined actions include inserting information requested in the IPMP packet instructions.